

Claire J Tomlin

List of Publications by Year in Descending Order

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Version: 2024-04-26

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

162
papers

3,968
citations

32
h-index

58
g-index

177
ext. papers

5,254
ext. citations

5.4
avg, IF

5.89
L-index

#	Paper	IF	Citations
162	Towards CyberPhysical Systems Robust to Communication Delays: A Differential Game Approach 2022 , 6, 2042-2047		0
161	Computation of Regions of Attraction for Hybrid Limit Cycles Using Reachability: An Application to Walking Robots. <i>IEEE Robotics and Automation Letters</i> , 2022 , 7, 4504-4511	4.2	1
160	Dynamically Computing Adversarial Perturbations for Recurrent Neural Networks. <i>IEEE Transactions on Control Systems Technology</i> , 2022 , 1-15	4.8	
159	DeepReach: A Deep Learning Approach to High-Dimensional Reachability 2021 ,		10
158	Scalable Learning of Safety Guarantees for Autonomous Systems using Hamilton-Jacobi Reachability 2021 ,		4
157	Efficient Dynamics Estimation with Adaptive Model Sets. <i>IEEE Robotics and Automation Letters</i> , 2021 , 6, 2373-2380	4.2	0
156	Visual Navigation Among Humans With Optimal Control as a Supervisor. <i>IEEE Robotics and Automation Letters</i> , 2021 , 6, 2288-2295	4.2	3
155	A Hopf-Lax Formula in Hamilton-Jacobi Analysis of Reach-Avoid Problems 2021 , 5, 1055-1060		0
154	A Successive-Elimination Approach to Adaptive Robotic Source Seeking. <i>IEEE Transactions on Robotics</i> , 2021 , 37, 34-47	6.5	0
153	A Robust Control Framework for Human Motion Prediction. <i>IEEE Robotics and Automation Letters</i> , 2021 , 6, 24-31	4.2	2
152	FaSTrack: a Modular Framework for Real-Time Motion Planning and Guaranteed Safe Tracking. <i>IEEE Transactions on Automatic Control</i> , 2021 , 1-1	5.9	4
151	Robust Control Barrier Value Functions for Safety-Critical Control 2021 ,		7
150	. <i>IEEE Robotics and Automation Letters</i> , 2020 , 5, 4188-4193	4.2	2
149	Provably Safe and Scalable Multivehicle Trajectory Planning. <i>IEEE Transactions on Control Systems Technology</i> , 2020 , 1-17	4.8	2
148	Robust Tracking with Model Mismatch for Fast and Safe Planning: An SOS Optimization Approach. <i>Springer Proceedings in Advanced Robotics</i> , 2020 , 545-564	0.6	1
147	Linear Single- and Three-Phase Voltage Forecasting and Bayesian State Estimation With Limited Sensing. <i>IEEE Transactions on Power Systems</i> , 2020 , 35, 1674-1683	7	6
146	An Insect-Scale Self-Sufficient Rolling Microrobot. <i>IEEE Robotics and Automation Letters</i> , 2020 , 5, 167-174.	4.2	5

145	Learning to control in power systems: Design and analysis guidelines for concrete safety problems. <i>Electric Power Systems Research</i> , 2020 , 189, 106615	3.5	4
144	2020 ,		11
143	Confidence-aware motion prediction for real-time collision avoidance ¹ . <i>International Journal of Robotics Research</i> , 2020 , 39, 250-265	5.7	19
142	Toward Distributed Energy Services: Decentralizing Optimal Power Flow With Machine Learning. <i>IEEE Transactions on Smart Grid</i> , 2020 , 11, 1296-1306	10.7	26
141	Bridging Hamilton-Jacobi Safety Analysis and Reinforcement Learning 2019 ,		9
140	A Scalable Framework For Real-Time Multi-Robot, Multi-Human Collision Avoidance 2019 ,		14
139	Efficient Computation of Feedback Control for Equality-Constrained LQR 2019 ,		3
138	Safely Probabilistically Complete Real-Time Planning and Exploration in Unknown Environments 2019 ,		5
137	2019 ,		4
136	Science of design for societal-scale cyber-physical systems: challenges and opportunities. <i>Cyber-Physical Systems</i> , 2019 , 5, 145-172	1.1	2
135	Long-Short Term Memory Neural Network Stability and Stabilization using Linear Matrix Inequalities 2019 ,		5
134	On the Powerball Method: Variants of Descent Methods for Accelerated Optimization 2019 , 3, 601-606		6
133	Incorporating Safety Into Parametric Dynamic Movement Primitives. <i>IEEE Robotics and Automation Letters</i> , 2019 , 4, 2260-2267	4.2	3
132	Modeling differentiation-state transitions linked to therapeutic escape in triple-negative breast cancer. <i>PLoS Computational Biology</i> , 2019 , 15, e1006840	5	9
131	. <i>IEEE Transactions on Control Systems Technology</i> , 2019 , 27, 1566-1582	4.8	7
130	A Classification-based Approach for Approximate Reachability 2019 ,		8
129	Design of the First Sub-Milligram Flapping Wing Aerial Vehicle 2019 ,		4
128	Parallelizing LQR Computation Through Endpoint-Explicit Riccati Recursion 2019 ,		1

127	A Risk-Sensitive Finite-Time Reachability Approach for Safety of Stochastic Dynamic Systems 2019 ,		7
126	Iterative Method using the Generalized Hopf Formula: Avoiding Spatial Discretization for Computing Solutions of Hamilton-Jacobi Equations for Nonlinear Systems 2019 ,		2
125	Robust Trajectory Planning for a Multirotor against Disturbance based on Hamilton-Jacobi Reachability Analysis 2019 ,		12
124	An Efficient Reachability-Based Framework for Provably Safe Autonomous Navigation in Unknown Environments 2019 ,		23
123	Reachability-Based Safety Guarantees using Efficient Initializations 2019 ,		8
122	On Identification of Distribution Grids. <i>IEEE Transactions on Control of Network Systems</i> , 2019 , 6, 950-960,		39
121	Blind identification of fully observed linear time-varying systems via sparse recovery. <i>Automatica</i> , 2019 , 100, 330-335	5-7	2
120	A General Safety Framework for Learning-Based Control in Uncertain Robotic Systems. <i>IEEE Transactions on Automatic Control</i> , 2019 , 64, 2737-2752	5-9	83
119	Plug-and-Play Model Predictive Control for Load Shaping and Voltage Control in Smart Grids. <i>IEEE Transactions on Smart Grid</i> , 2019 , 10, 2334-2344	10-7	12
118	Decomposition of Reachable Sets and Tubes for a Class of Nonlinear Systems. <i>IEEE Transactions on Automatic Control</i> , 2018 , 63, 3675-3688	5-9	49
117	Secure State Estimation and Control for Cyber Security of the Nonlinear Power Systems. <i>IEEE Transactions on Control of Network Systems</i> , 2018 , 5, 1310-1321	4	35
116	Some Local Stability Properties of an Autonomous Long Short-Term Memory Neural Network Model 2018 ,		3
115	Online Learning to Approach a Person With No Regret. <i>IEEE Robotics and Automation Letters</i> , 2018 , 3, 52-59	4-2	4
114	Milligram-Scale Micro Aerial Vehicle Design for Low-Voltage Operation 2018 ,		8
113	On the Analysis of Cyclic Drug Schedules for Cancer Treatment using Switched Dynamical Systems 2018 ,		2
112	Haptic Assistance via Inverse Reinforcement Learning 2018 ,		1
111	Reachability Analysis as a Design Tool for Stormwater Systems 2018 ,		4
110	Plug and Play Distributed Model Predictive Control for Heavy Duty Vehicle Platooning and Interaction with Passenger Vehicles 2018 ,		7

109	Differentiation-state plasticity is a targetable resistance mechanism in basal-like breast cancer. <i>Nature Communications</i> , 2018 , 9, 3815	17.4	75
108	Hamilton-Jacobi Reachability: Some Recent Theoretical Advances and Applications in Unmanned Airspace Management. <i>Annual Review of Control, Robotics, and Autonomous Systems</i> , 2018 , 1, 333-358	11.8	20
107	Multiplayer Reach-Avoid Games via Pairwise Outcomes. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 1451-1457	5.9	55
106	Reachability-Based Safety and Goal Satisfaction of Unmanned Aerial Platoons on Air Highways. <i>Journal of Guidance, Control, and Dynamics</i> , 2017 , 40, 1360-1373	2.1	27
105	On the powerball method 2017 ,		2
104	Exact and efficient Hamilton-Jacobi guaranteed safety analysis via system decomposition 2017 ,		14
103	Cost-Aware Path Planning Under Co-Safe Temporal Logic Specifications. <i>IEEE Robotics and Automation Letters</i> , 2017 , 2, 2308-2315	4.2	13
102	Stability analysis of wholesale electricity markets under dynamic consumption models and real-time pricing 2017 ,		4
101	Secure state estimation for nonlinear power systems under cyber attacks 2017 ,		5
100	Variance-Constrained Risk Sharing in Stochastic Systems. <i>IEEE Transactions on Automatic Control</i> , 2017 , 62, 1865-1879	5.9	1
99	Event detection and localization in distribution grids with phasor measurement units 2017 ,		20
98	Hedging strategies for load-serving entities in wholesale electricity markets 2017 ,		2
97	FaSTrack: A modular framework for fast and guaranteed safe motion planning 2017 ,		77
96	A hybrid framework for multi-vehicle collision avoidance 2017 ,		8
95	2017 ,		70
94	Stochastic Control With Uncertain Parameters via Chance Constrained Control. <i>IEEE Transactions on Automatic Control</i> , 2016 , 61, 2892-2905	5.9	19
93	Approximation Algorithms for Optimization of Combinatorial Dynamical Systems. <i>IEEE Transactions on Automatic Control</i> , 2016 , 61, 2644-2649	5.9	6
92	Reconstruction of Gene Regulatory Networks based on Repairing Sparse Low-rank Matrices. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 2016 , 13, 767-777	3	

91	A model of phenotypic state dynamics initiates a promising approach to control heterogeneous malignant cell populations 2016 ,		4
90	Ensuring safety for sampled data systems: An efficient algorithm for filtering potentially unsafe input signals 2016 ,		5
89	Residential demand response targeting using machine learning with observational data 2016 ,		15
88	Optimal mode-switching and control synthesis for floating offshore wind turbines 2016 ,		3
87	Multi-vehicle collision avoidance via hamilton-jacobi reachability and mixed integer programming 2016 ,		25
86	Learning quadrotor dynamics using neural network for flight control 2016 ,		57
85	Fast reachable set approximations via state decoupling disturbances 2016 ,		22
84	Performance Evaluation and Optimization of Communication Infrastructure for the Next Generation Air Transportation System. <i>IEEE Transactions on Parallel and Distributed Systems</i> , 2015 , 26, 1106-1116	3.7	7
83	Reach-avoid problems with time-varying dynamics, targets and constraints 2015 ,		59
82	Heterogeneity in cancer dynamics: A convex formulation to dissect dynamic trajectories and infer LTV models of networked systems 2015 ,		1
81	Disentangling multidimensional spatio-temporal data into their common and aberrant responses. <i>PLoS ONE</i> , 2015 , 10, e0121607	3.7	1
80	Automation-Assisted Capture-the-Flag: A Differential Game Approach. <i>IEEE Transactions on Control Systems Technology</i> , 2015 , 23, 1014-1028	4.8	34
79	Safe sequential path planning of multi-vehicle systems via double-obstacle Hamilton-Jacobi-Isaacs variational inequality 2015 ,		31
78	Temporal-difference learning for online reachability analysis 2015 ,		3
77	Indirect load control for electricity market risk management via risk-limiting dynamic contracts 2015 ,		6
76	Retrieving common dynamics of gene regulatory networks under various perturbations 2015 ,		1
75	Decoupling of the PI3K Pathway via Mutation Necessitates Combinatorial Treatment in HER2+ Breast Cancer. <i>PLoS ONE</i> , 2015 , 10, e0133219	3.7	16
74	On the Optimal Solutions of the Infinite-Horizon Linear Sensor Scheduling Problem. <i>IEEE Transactions on Automatic Control</i> , 2014 , 59, 2825-2830	5.9	32

73	Reachability-based safe learning with Gaussian processes 2014 ,			97
72	A practical reachability-based collision avoidance algorithm for sampled-data systems: Application to ground robots 2014 ,			7
71	Inverse covariance estimation from data with missing values using the Concave-Convex Procedure 2014 ,			4
70	Contract design for frequency regulation by aggregations of commercial buildings 2014 ,			20
69	Direct load control for electricity market risk management via risk-limiting dynamic contracts 2014 ,			2
68	Evasion of a team of dubins vehicles from a hidden pursuer 2014 ,			15
67	A design of neural decoder by reducing discrepancy between Manual Control (MC) and Brain Control (BC) 2014 ,			1
66	Exact reconstruction of gene regulatory networks using compressive sensing. <i>BMC Bioinformatics</i> , 2014 , 15, 400	3.6		27
65	Plug-and-play model predictive control for electric vehicle charging and voltage control in smart grids 2014 ,			22
64	Microtubules provide directional information for core PCP function. <i>ELife</i> , 2014 , 3, e02893	8.9		90
63	Mathematics of the Integrative Cancer Biology Program. <i>Interface Focus</i> , 2013 , 3, 20130023	3.9		6
62	Energy management via pricing in LQ dynamic games 2013 ,			19
61	Provably safe and robust learning-based model predictive control. <i>Automatica</i> , 2013 , 49, 1216-1226	5.7		231
60	Regularization-based identification for level set equations 2013 ,			1
59	Optimal load management system for Aircraft Electric Power distribution 2013 ,			20
58	A probabilistic approach to planning and control in autonomous urban driving 2013 ,			21
57	Evasion as a team against a faster pursuer 2013 ,			6
56	On efficiency in mean field differential games 2013 ,			2

55	Optimal control of partially observable discrete time stochastic hybrid systems for safety specifications 2013 ,		9
54	Reducing Transient and Steady State Electricity Consumption in HVAC Using Learning-Based Model-Predictive Control. <i>Proceedings of the IEEE</i> , 2012 , 100, 240-253	14.3	156
53	A Hierarchical Flight Planning Framework for Air Traffic Management. <i>Proceedings of the IEEE</i> , 2012 , 100, 179-194	14.3	41
52	Guaranteed Safe Online Learning via Reachability: tracking a ground target using a quadrotor 2012 ,		32
51	Investigating Communication Infrastructure of Next Generation Air Traffic Management 2012 ,		7
50	Time-optimal multi-stage motion planning with guaranteed collision avoidance via an open-loop game formulation 2012 ,		19
49	Incentive design for efficient building quality of service 2012 ,		1
48	Monotone Approximations of Minimum and Maximum Functions and Multi-objective Problems. <i>Applied Mathematics and Optimization</i> , 2012 , 66, 455-473	1.5	51
47	Identifying models of HVAC systems using semiparametric regression 2012 ,		25
46	A general, open-loop formulation for reach-avoid games 2012 ,		35
45	Multiphase mixed-integer optimal control framework for aircraft conflict avoidance 2012 ,		2
44	Data-driven graph reconstruction using compressive sensing 2012 ,		6
43	Pursuit, evasion and defense in the plane 2012 ,		32
42	A hybrid method for chance constrained control in uncertain environments 2012 ,		10
41	Learning-based model predictive control on a quadrotor: Onboard implementation and experimental results 2012 ,		82
40	Verification and control of hybrid systems using reachability analysis 2011 ,		1
39	Applications of hybrid reachability analysis to robotic aerial vehicles. <i>International Journal of Robotics Research</i> , 2011 , 30, 335-354	5.7	110
38	Game-theoretic routing of GPS-assisted vehicles for energy efficiency 2011 ,		14

37	Inference of temporally evolving network dynamics with applications in biological systems 2011,	5
36	A differential game approach to planning in adversarial scenarios: A case study on capture-the-flag 2011,	43
35	Guaranteed decentralized pursuit-evasion in the plane with multiple pursuers 2011,	76
34	Closed-loop belief space planning for linear, Gaussian systems 2011,	37
33	Discrete time stochastic hybrid dynamical games: Verification & controller synthesis 2011,	11
32	Reachability-based synthesis of feedback policies for motion planning under bounded disturbances 2011,	29
31	On feedback design and risk allocation in chance constrained control 2011,	14
30	A numerical method for the optimal control of switched systems 2010,	22
29	An ODE model for the HER2/3-AKT signaling pathway in cancers that overexpress HER2 2010,	1
28	Computer-aided drug discovery for pathway and genetic diseases 2010,	3
27	On the optimal solutions of the infinite-horizon linear sensor scheduling problem 2010,	14
26	On sensor scheduling of linear dynamical systems with error bounds 2010,	3
25	On efficient sensor scheduling for linear dynamical systems 2010,	12
24	Robust reach-avoid controller synthesis for switched nonlinear systems 2010,	17
23	Mobile Sensor Network Control Using Mutual Information Methods and Particle Filters. <i>IEEE Transactions on Automatic Control</i> , 2010 , 55, 32-47	5.9 182
22	Trajectory generation for aircraft subject to dynamic weather uncertainty 2010,	12
21	Design of guaranteed safe maneuvers using reachable sets: Autonomous quadrotor aerobatics in theory and practice 2010,	69
20	System identification of hunchback protein patterning in early drosophila embryogenesis 2009,	1

19	Trajectory optimization in convex underapproximations of safe regions 2009 ,		1
18	Statistics for sparse, high-dimensional, and nonparametric system identification 2009 ,		3
17	Graph-theoretic topological control of biological genetic networks 2009 ,		5
16	Monotone Piecewise Affine Systems. <i>IEEE Transactions on Automatic Control</i> , 2009 , 54, 1913-1918	5.9	6
15	Stanford Testbed of Autonomous Rotorcraft for Multi-Agent Control 2009 ,		7
14	Decentralized cooperative collision avoidance for acceleration constrained vehicles 2008 ,		35
13	Optimal discovery of a stochastic genetic network 2008 ,		1
12	Locally optimal decomposition for autonomous obstacle avoidance with the Tunnel-MILP algorithm 2008 ,		10
11	Reachability calculations for automated aerial refueling 2008 ,		38
10	Aircraft Autolander Safety Analysis Through Optimal Control-Based Reach Set Computation. <i>Journal of Guidance, Control, and Dynamics</i> , 2007 , 30, 68-77	2.1	78
9	Quadrotor Helicopter Flight Dynamics and Control: Theory and Experiment 2007 ,		475
8	Biology by numbers: mathematical modelling in developmental biology. <i>Nature Reviews Genetics</i> , 2007 , 8, 331-40	30.1	125
7	Solving the aircraft routing problem using network flow algorithms. <i>Proceedings of the American Control Conference</i> , 2007 ,	1.2	5
6	Polytopic Approximations of Reachable Sets Applied to Linear Dynamic Games and a Class of Nonlinear Systems 2005 , 3-19		17
5	Overapproximating Reachable Sets by Hamilton-Jacobi Projections. <i>Journal of Scientific Computing</i> , 2003 , 19, 323-346	2.3	85
4	Guaranteed safe online learning of a bounded system		6
3	Guaranteed safe online learning of a bounded system		13
2	Probabilistically Safe Robot Planning with Confidence-Based Human Predictions		26

- 1 Reducing Conservativeness in Safety Guarantees by Learning Disturbances Online: Iterated Guaranteed Safe Online Learning